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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,245	07/03/2003	Bertan Tezcan	5646-93	4746
20792	7590	09/21/2004	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			NGUYEN, DANG T	
PO BOX 37428			ART UNIT	PAPER NUMBER
RALEIGH, NC 27627			2824	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,245

Applicant(s)

TEZCAN ET AL.

Examiner

Dang T Nguyen

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16,17,29, and 30 is/are allowed.
- 6) ☒ Claim(s) 1,12,14,15,18 and 20 is/are rejected.
- 7) ☒ Claim(s) 2-11,13,19 and 21-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/3,9/2,9/22/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Search history.

DETAILED ACTION

1. This action is responsive to the following communications: the Application and the Information Disclosure Statement filed on July 3, 2003 and other Information Disclosure Statement filed on Sep. 2, 2003 and Sep. 22, 2003.
2. Claims 1 – 30 are pending in this case. Claims 1, 16, 18, 20, and 29 are independent claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 12, 14, 15, 18 and 20 are rejected under 35 U.S.C. 102(e) as being anticipate by Pereira et al. U.S. Patent No. 6,542,391 B2 – filed Aug. 27, 2001.

Regarding independent claim 1, Fig. 15 of Pereira discloses a content addressable memory (CAM) device, comprising: a search word input [ADDR]; a CAM core [1102] comprising a plurality of CAM cells [S1 – SZ]; and a virtual partitioning circuit [1283] that selectively enables a partition (Row segment of cells selection of 1102, See Col. 22 lines 60 – 61) in the CAM core [1102] for search of a portion ([A11 – A2], Col. 23 lines 63 – 66) of a search word ([A11-A0], Col. 23 line 63) at the search

Art Unit: 2824

word input [ADDR] responsive to the search word ([A11-A0], Col. 23 line 63), and that provides a mapping [WL (0), ...] of the search word to a comparand input (Fig. 13 [1108]) to the CAM core [1102], the mapping defining a virtual subpartition (Col. 24 lines 5 - 7).

Regarding dependent claim 12, Pereira discloses wherein the virtual partitioning circuit (Fig. 15 [1283, 1286]) is responsive to a configuration input to define the partitions (Col. 23 lines 65 – 67) and subpartitions (Col. 24 lines 5 – 7).

Regarding dependent claim 14, Pereira discloses wherein the virtual partitioning circuit comprises a lookup table (Col. 18 lines 20 – 21).

Regarding dependent claim 15, Pereira discloses wherein the lookup table is implemented in at least one of a CAM and a RAM (Col. 1 lines 54 – 56).

Regarding dependent claim 18, Fig. 15 of Pereira discloses a content addressable memory (CAM) device, comprising: a search word input [ADDR]; a CAM core comprising a plurality of CAM cells [1102]; means [1283] for selectively enabling a partition in the CAM core for search of a portion of a search word ([A11 – A2], Col. 23 lines 63 – 66) at the search word input [ADDR] responsive to the search word [A11 – A0]; means [1283] for mapping the search word to virtual subpartition identifier (Fig. 13 [1108]) and for providing the virtual subpartition identifier as a comparand input (output of Fig.13 [1108]) to the CAM core (Fig. 13 [1102]).

Regarding dependent claim 20, Fig. 15 of Pereira discloses operating a content addressable memory (CAM) device, the method comprising: receiving a search word (ADDR [A11 – A0]); selectively enabling a partition (Col. 22 lines 60 – 61) in a CAM core [1102] for search of a portion of the search word ([A11 – A2], Col. 23 lines 63 – 66)

Art Unit: 2824

at the search word input responsive to the search word; mapping the search word to a virtual subpartition identifier (Fig. 13 [1108]); and searching the partition [WL(0), WL(1) ...] for the portion of the search word ([A11 – A2], Col. 23 lines 63 – 66) in conjunction with searching the CAM core for the virtual subpartition identifier (Fig. 13 [1108]) to thereby produce a search result for the search word [RW1, RW2...].

Allowable Subject Matter

4. Claims 2 – 11, 13, 19, 21 – 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 16, 17, 29, and 30 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 2, 19, and 21, the prior art Periera discloses a Content Addressable Memory having a plurality of CAM blocks with block selection circuit. However there is no suggestion or teaching in the prior art to provide “the virtual partitioning circuit receives a first portion of the search word and responsively constrains search for a second portion of the search word to the partition of the CAM core, and wherein the virtual partitioning circuit generates a comparand input corresponding to a virtual subpartition of the partition from the first portion of the search word”.

With respect to claim 13, the prior art Periera discloses a Content Addressable Memory having a plurality of CAM blocks with block selection circuit. However there is no suggestion or teaching in the prior art to provide “the virtual partitioning circuit is

Art Unit: 2824

further configurable to vary the width of the portions of the search words that are searched in the CAM core”.

With respect to claims 16 and 29, the prior art Periera discloses a Content Addressable Memory having a plurality of CAM blocks with block selection circuit. However there is no suggestion or teaching in the prior art to provide “a random access memory (RAM) that accesses a memory location therein responsive to a first portion of the search word and that applies a control input to the CAM core to constrain search for a second portion of the search word to a partition of the CAM core responsive to the accessed memory location.

Prior art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lien et al.	Patent No. US 6,657,878 B2	Date of Patent: Dec. 2, 2003
Gillingham	Patent No. US 6,708,250 B2	Date of Patent: Mar. 16, 2004
Regev et al.	Pub. No. US 2004/0120174 A1	Pub. Date: Jun. 24, 2004
Srinivasan et al.	Patent No. 5,852,569	Date of Patent: Dec. 22, 1998

Contact Information

8. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's

Art Unit: 2824

supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC@uspto.gov.



MICHAEL S. LEBENTRITT
PRIMARY EXAMINER

Dang Nguyen 9/14/2004